

# Scientists challenge the efficacy of folfiri in a colorectal cancer subtype

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The current classification system for colorectal cancer, which is based on genetic expression profiles, cannot be used to predict drug responses to FOLFIRI. This is the conclusion reached by a team from the Spanish National Cancer Research Centre (CNIO), formed by members from the Gastrointestinal Cancer Clinical Research Unit and the Structural Computational Biology Group. The study, published this week in the journal *Nature Medicine*, will assist oncologists in making better-informed decisions regarding how to treat their colorectal cancer patients in the clinic.

Conclusions from the analysis, led by Manuel Hidalgo, Director of the Clinical Research Programme at CNIO, are in response to previous work published in the same journal in March, 2014 (Sadanandam et al). By means of analysing gene [expression profiles](#), Sadanandam's team designed a classification for [colon cancer](#) based on five subtypes, associating one of them, the stemlike subtype, with a better drug response to FOLFIRI; the standard treatment for this tumour type. Specifically, in a 21-patient group, 7 were classified as this subtype, 5 of whom (70%) exhibited a positive response to FOLFIRI. The authors of this article therefore concluded that the classification based on gene expression profiles is directly related to the drug response.

To confirm their conclusion, CNIO researchers, following their protocol, classified 10 patients who had previously been treated at the clinic with this therapy. Three of these patients belonged to the stemlike subtype but none of them responded to treatment with FOLFIRI. Patients belonging

to the other subtypes, on the other hand, showed a response to the treatment.

"We have analysed the data from the original work and we see that it is not statistically significant, even when we increase the sample size to ours. The number of patients included in the original study is insufficient to establish a positive correlation between classification of the tumour based on [gene expression profiles](#) and sensitivity to FOLFIRI," warns researcher Raquel Martínez, the article's first author.

"Genetic classification of tumours is key to enhancing our understanding of cancer mechanisms and to make personalised therapeutic decisions," explains Hidalgo. "In this case, however, the data must be confirmed by further research studies to keep an erroneous correlation from leading doctors to prescribe inadequate treatments in the clinic."

**More information:** Colorectal cancer classification based on gene expression is not associated with FOLFIRI response. Raquel Martinez-Garcia, Pedro P. Lopez-Casas, Daniel Rico, Alfonso Valencia and Manuel Hidalgo. *Nature Medicine* (2014). [DOI: 10.1038/nm.3701](https://doi.org/10.1038/nm.3701)

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